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EDITORIALS

STREPTOMYCIN

The lack of availability heretofore of streptomycin has been a great disappointment to physicians whose patients seemed in urgent need of this new antibiotic; until less than a year ago the material could only be obtained by a few workers through highly specialized channels. Fortunately it was then possible to work out a mechanism whereby, under the supervision of the Committee on Therapeutics and Other Agents of the National Research Council, moderate amounts of streptomycin were distributed to a series of "responsible investigators" so that patients could be treated under controlled conditions and without cost in order to get a quick and reliable evaluation of what this antibiotic really accomplishes.

These investigators all reported the results of their studies to Dr. Chester Keefer, the Chairman of the Committee, and his report[1] of these pooled observations on 1000 patients represents a landmark in the study of streptomycin which every doctor should study with the greatest attention. Certain points seem definitely settled. First of all here is now a well-established list of the conditions in which streptomycin really is effective: Urinary tract infections due to various gram negative bacilli, bacteremias due to coliform bacilli and B. Friedlander, H. influenzae infections, tularemia, and meningitis due to coliform bacilli, B. Friedlander, B. Pyocyaneous and H. influenzae. On the other hand it now seems pretty clear that the material is of only questionable value in typhoid fever, Brucellosis and Salmonella infections. Malaria, Richettsial infections and virus infections seem not affected at all. The position of tuberculosis is not yet settled but streptomycin has been shown to exercise undoubted beneficial effects in certain experimental tuberculous infections and suggestive palliative results have been obtained in some cases of tuberculosis in man. Large amounts of this expensive material over long periods of time are necessary and much further study must be done; however, any ray of hope of effective therapy in tuberculosis is encouraging. More details as to indications can be found in the article by Dr. Keefer and his associates referred to above.

Quite recently streptomycin, with certain limitations, has been made available for all doctors—an event of the highest importance. The Civilian Production Administration has now undertaken —as it did with penicillin several years ago—to allocate a monthly allowance of streptomycin to civilian "depot" hospitals which in turn can distribute the material to doctors on proper request. Thirteen hospitals, for example, have been designated in San Francisco and the same number in Los Angeles, as well as hospitals in many other cities in California. When a doctor has a patient who needs streptomycin he will apply to the nearest depot hospital. The hospital in turn, since the supplies are as yet very limited, will probably request information showing that the case is a suitable one for streptomycin treatment. Streptomycin unfortunately is still quite expensive but it is to be hoped that prices will fall and supplies increase in the near future.

It is hard to avoid comparisons between streptomycin and penicillin and it must be admitted that penicillin still stands out on the whole as the more valuable agent. The conditions in which streptomycin is effective are unfortunately limited in number and some of the most brilliant results are had in diseases so rare—such as tularemia—as to constitute no great problem. Unpleasant and sometimes serious reactions—skin rashes, fever, constitutional symptoms and auditory nerve disturbances—frequently limit the time over which streptomycin can be given to a few days; there is also a tendency for many bacteria to become rapidly resistant to the drug. None the less, streptomycin has clearly come to stay and will be, if not a competitor, at least a valu-

able supplement to penicillin in a number of important infections not influenced by the latter. Doctors should use streptomycin carefully and critically in cases in which the results can be evaluated so that useful information will be obtained and the patients' money will not be wasted.

REFERENCE

1. Streptomycin in the Treatment of Infections, A Report of 1,000 Cases, J.A.M.A., 132:4 (Sept. 7), 1946.

New Hospitals—New Methods

Under the recently enacted Hill-Burton Hospital Construction Bill a financial impetus will be given to the construction of new hospital and similar institutions throughout this State. Already 17 hospital districts have been formed and committees are meeting to discuss the most desirable location and size of proposed institutions in those areas. It is assumed that several of these institutions will house private or part-pay patients. Space or space and equipment will be furnished for surgical, radiological, pathological and other medical services. In institutions designed for the bed care of private patients it is to be hoped that plans will be made which will permit private practitioners of medicine to function in the most efficient and ethical manner possible.

In the past, it has been not unusual for hospitals to charge patients only a portion of the actual cost of their bed care. For example, many private hospitals have room or ward charges which cover about 80 per cent of the actual cost of the bed and basic hospital services. The remaining 20 per cent of costs is obtained from various sources, including a portion of the professional income of the radiologists, pathologists, anesthetists, and in some cases, obstetricians and surgeons. The diversion of professional fees toward the support of hospital beds has meant that those patients requiring such professional services actually pay a larger proportion of the hospital charge than those not requiring them.

Sound economic policy suggests that an effort should be made to finance the beds in hospitals on a true cost basis. If it costs $7.48 a day to operate a bed in a hospital, that should be the bed charge—and not $5.50. Then there will not be undue pressure on the hospital administrator to seek additional income from the professional fees of staff and consultant physicians. This will encourage sounder relations on all sides, as well as providing departmental income for improved service.

It is perfectly simple and ethical for physicians such as radiologists and pathologists to rent space or space and equipment in the hospital and to furnish excellent medical care on a full professional basis. The details of such contractual arrangements have been published in journals devoted to hospital management as well as in journals pertaining to the specialties involved. The medical profession must feel that this first big expansion of medical care facilities may well set a precedent for future medical policies on a federal basis. It will welcome all sound developments in the hospital field, especially in those tending to perfect the relationship between hospitals and physicians.

FOLIC ACID

The brighest new star to flash across the horizon of medical therapeutics is that of folic acid. In the short space of six years the status of this substance has progressed from an unidentified deficiency to isolation, synthesis and successful application in the therapy of the macrocytic anemia of pernicious anemia, sprue, nutritional anemia, pernicious anemia of pregnancy and megaloblastic anemia of infancy. This phenomenal progress has been made possible by the combined efforts of a number of different groups of investigators, sometimes working in fields which appeared unrelated.

A group of substances widely distributed in natural products, including liver, yeast and spinach, were observed to supply deficiencies in growth or hematopoesis in animals. They were referred to as Vitamin M, folic acid, lactobacillus casei factor and streptococcus fecalis R factor, depending on the source of the material and the species of organism used for test purposes (chicks, monkeys, rats, fish and L. casei). The various forms of this dietary factor differed in their activity toward different test objects in their ability to substitute for the deficiency. Folic acid was considered to be a factor in liver which possessed hematopoietic activity and was essential for the growth of L. casei. A closely related compound was found in fermentation products. During the past year two cooperating groups of workers[1,2] have announced the isolation and the synthesis of the liver L. casei factor. The structural formula established for this substance is N - [4 - {[(2 - amino - 4 hydroxy - 6 - pteridyl) methyl] amino } benzoyl] glutamic acid. As an abbreviated designation the name pteroylglutamic acid was proposed. The same authors likewise